OMNOS™

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# Fertility + Hormone Blood Test

**Sample**

## Understanding your results

### Optimal vs standard

Optimal ranges for results refer to the values that are considered ideal for good health and can help to prevent disease. These values may be narrower than the standard ranges, and they are based on research that suggests that certain health outcomes are associated with particular levels of specific blood markers. Optimal ranges may differ depending on the individual's age, sex, and health history.

On the other hand, standard ranges for results are the values that are considered normal for most people, based on statistical analysis of a large group of healthy individuals. These ranges are used as a reference to determine whether a patient's test results fall within the expected range for their age, sex, and overall health. Standard ranges are typically wider than optimal ranges, as they take into account a broader range of health conditions and genetic variations.

In summary, optimal ranges for test results aim to identify the most desirable values for good health, while standard ranges provide a reference point to assess a patient's overall health status. Both optimal and standard ranges are useful in interpreting test results, and their interpretation should be done in consultation with a qualified healthcare provider who can consider the individual's unique health situation

## Summary

### Outside of normal range

| | |
|---|---|
| Anti-Mullerian hormone | **48.0 pmol/L - Above Optimal** |
| DHEA-Sulphate | **4.58 umol/L - Below Optimal** |
| Globulin | **32.9 g/L - Above Optimal** |
| HDL | **1.21 mmol/L - Below Optimal** |
| Oestradiol | **183.0 pmol/L - Below Optimal** |
| Progesterone | **0.5 nmol/L - Low** |
| SHBG | **40.0 nmol/L - Below Optimal** |

| | |
|---|---|
| Triglyceride | 1.96 mmol/L - High |
| Vitamin D (25 OH) | 24.0 nmol/L - Low |

# Adrenal

### Cortisol


**390.0 nmol/L - Optimal**

Cortisol is a hormone produced by the adrenal glands that is involved in the body's stress response. It helps regulate blood sugar levels, blood pressure, and the immune system's response to inflammation. Cortisol levels naturally fluctuate throughout the day, with higher levels in the morning and lower levels at night. Out of range levels of cortisol in the blood can indicate various health issues, such as adrenal gland disorders, stress-related conditions, or pituitary gland disorders.

### DHEA-Sulphate


**4.58 umol/L - Below Optimal**

DHEA-S (Dehydroepiandrosterone sulfate) is a hormone produced by the adrenal glands. It serves as a precursor to the sex hormones estrogen and testosterone. DHEA-S levels in the blood can be used to assess adrenal gland function and may be used in the diagnosis of conditions such as adrenal insufficiency, polycystic ovary syndrome, and infertility.

# Biochemistry

### Albumin


**40.2 g/L - Optimal**

Albumin is a protein produced by the liver that plays a critical role in maintaining various bodily functions. It helps to regulate fluid balance in the body by transporting substances such as hormones, drugs, and nutrients through the bloodstream. Albumin also acts as a buffer, helping to maintain the pH balance of the blood. Additionally, it plays a crucial role in maintaining blood pressure and transporting fatty acids. Low levels of albumin can indicate liver or kidney damage, malnutrition, or other underlying health issues.

### Globulin


**32.9 g/L - Above Optimal**

Globulins are a group of proteins found in the blood that play a variety of roles in the body. It plays a role in transporting hormones and other molecules, aiding in immune function, and helping to regulate blood clotting. Measuring globulin levels in the blood can be used to evaluate overall protein levels in the body linked to low stomach acid levels. It is also associated with infections or inflammation in the body.

### Total Protein


**73.1 g/L - Optimal**

The test measures two types of protein: albumin and globulin. Albumin is the most common protein in the blood and helps maintain blood volume and blood pressure. Globulins are a group of proteins that include antibodies, enzymes, and other proteins involved in immune function and blood clotting. Total protein is a laboratory test that measures the total amount of protein in the blood.

## Hormones

### Anti-Mullerian hormone


**48.0 pmol/L - Above Optimal**

AMH is a key marker of fertility in females. It's made by the ovarian follicles. It is considered a measurement of ovarian reserve in females. AMH levels are measured during in vitro fertilisation (IVF) treatment to help guide what hormones to use. AMH can also help predict response to ovarian stimulation that's used as part of IVF.

### FSH

**5.9 IU/L - Optimal**

FSH (follicle-stimulating hormone) is a hormone produced by the pituitary gland. It plays a key role in sexual development and reproduction. In women, FSH stimulates the growth and development of follicles in the ovaries, which release eggs during ovulation. In men, FSH stimulates the production of sperm in the testes. Measuring FSH levels in the blood can be used to diagnose conditions such as infertility, pituitary gland disorders, and menopause.

**Free Testosterone**


**0.022 nmol/L - Optimal**

Free testosterone is a hormone and form of testosterone in the blood that is not bound to proteins, allowing it to freely circulate throughout the body and interact with cells. It plays a key role in sexual development, fertility, and overall health. Measuring free testosterone levels in the blood can be used to diagnose conditions such as hypogonadism, polycystic ovary syndrome, or infertility. It can also be used to monitor testosterone replacement therapy and assess the risk of certain health conditions, such as osteoporosis or cardiovascular disease.

**LH**


**7.1 IU/L - Optimal**

LH (luteinizing hormone) is a hormone that plays a crucial role in reproductive health. In women, LH triggers ovulation, which is the release of an egg from the ovary. In men, LH stimulates the production of testosterone in the testes. Measuring LH levels in the blood or urine can indicate infertility, polycystic ovary syndrome, and menopause in women. Abnormal levels of LH can also be indicative of other health conditions, such as pituitary gland disorders in men and women.

**Oestradiol**


**183.0 pmol/L - Below Optimal**

Oestradiol is a hormone that plays a crucial role in the development and maintenance of female reproductive organs and secondary sexual characteristics. It is a type of estrogen hormone that is primarily produced by the ovaries in women, as well as in smaller amounts by the testes in men. Oestradiol is involved in regulating the menstrual cycle, supporting pregnancy, and maintaining bone density in women. In men it plays a role in sexual function and libido, cognitive function, cardio vascular as well as bone health. Abnormal levels of oestradiol can lead to a range of health issues, including infertility, cardiovascular disease, weight contol issues and osteoporosis.

## Progesterone


### 0.5 nmol/L - Low

Progesterone is a hormone primarily produced by the ovaries in women and the testes in men, as well as the adrenal glands. In women, progesterone helps prepare the uterus for pregnancy and supports fetal development during early pregnancy. In men, progesterone is a precursor to other hormones like testosterone, helps regulate the immune system and may be in involved in sperm function. Additionally, in both men and women, progesterone helps regulate mood and promotes overall well-being. Low levels of progesterone in women can cause irregular menstrual cycles, difficulty becoming pregnant, and may increase the risk of miscarriage. In men, low progesterone levels may lead to erectile dysfunction, decreased libido, and contribute to infertility.

## Prolactin


### 119.0 mU/L - Optimal

Prolactin is a hormone produced by the pituitary gland in the brain, and It is essential for lactation and milk production in women after childbirth. It is primarily used as a screening test for prostate inflammation and cancer. Elevated levels of PSA in the blood may indicate the prostate inflammation or cancer, although other factors such as age, prostate size, and infections can also affect PSA levels.

## SHBG


### 40.0 nmol/L - Below Optimal

Sex hormone-binding globulin (SHBG) is a protein made by the liver that binds to sex hormones such as testosterone and estrogen in the bloodstream. It regulates the levels of free, unbound hormones by binding to them and making them inactive. The amount of SHBG in the blood can affect the amount of available hormones. High levels of SHBG can lead to lower levels of free testosterone, while low levels of SHBG can lead to higher levels of free testosterone. SHBG levels can be affected by factors such as age, gender, metabolic dysregulation and certain medical conditions.

## Testosterone

**1.35 nmol/L - Optimal**

Testosterone is a hormone that plays a vital role in the development and maintenance of male reproductive tissues and secondary sex characteristics. It is also produced in smaller amounts by females. Testosterone is responsible for the development of muscle mass, bone density, and body hair growth, as well as sex drive and the production of sperm. In addition, testosterone is important for maintaining overall health, including maintaining mood, cognitive function, and cardiovascular health. Out of range testosterone levels can lead to various health problems, such as infertility, erectile dysfunction, and osteoporosis.

## Lipids

### Cholesterol


**4.61 mmol/L - Optimal**

Cholesterol is a type of fat that is essential for many bodily functions. It is a key component of cell membranes and is necessary for the production of hormones, vitamin D, and bile acids that aid in digestion. High levels of cholesterol in the blood can increase the risk of cardiovascular disease.

### HDL


**1.21 mmol/L - Below Optimal**

HDL (high-density lipoprotein) is often referred to as the "good" cholesterol. It helps remove excess cholesterol from the blood and transports it to the liver for processing and removal from the body. HDL also has anti-inflammatory and anti-oxidant properties that help protect against heart disease and other health conditions. Higher levels of HDL are associated with a reduced cardiovascular risk, while low levels of HDL can increase the risk.

### LDL


**2.51 mmol/L - Optimal**

LDL (low-density lipoprotein) is often referred to as the "bad" cholesterol. It can contribute to the buildup of plaque in the arteries under specific immune and inflammatory conditions. This increases the risk of heart disease and stroke. High levels of LDL in the blood can lead to the formation of fatty deposits in the blood vessels, which can narrow and harden them over time, reducing blood flow to vital organs.

**Triglyceride**


**1.96 mmol/L - High**

Triglycerides are a type of fat found in the blood that are are produced in the liver and also obtained from the diet. They are used as a source of energy by the body. High levels of triglycerides can increase the risk of developing heart disease and stroke. Triglyceride levels are affected by factors such as diet, physical activity, and genetics.

## Thyroid Function

**Anti-thyroglobulin Abs**


**12.0 IU/mL - Optimal**

Anti-thyroglobulin antibodies (TgAbs) are proteins produced by the immune system that attack thyroglobulin. Thyroglobulina protein is produced by the thyroid gland and is essential for the production of thyroid hormones. High levels of TgAbs in the blood may indicate autoimmune thyroid conditions. TgAb testing is often used as a complementary tool in diagnosing and monitoring thyroid-related health issues.

**Anti-thyroidperoxidase abs**


**9.0 IU/mL - Optimal**

Anti-thyroid peroxidase antibodies (TPOAbs) are proteins produced by the immune system that attack thyroid peroxidase. Thyroid peroxidasean enzyme produced by the thyroid gland that is necessary for the production of thyroid hormones. Elevated levels of TPOAbs in the blood can be associated with autoimmune thyroid conditions.Testing for TPOAbs is used to assess the risk of future thyroid dysfunction in individuals with TPOAbs.

**Free T3**

**5.0 pmol/L - Optimal**

Free T3 (triiodothyronine) is a hormone produced by the thyroid gland. It plays a role in regulating metabolism, body temperature, and other bodily functions. Free T3 is the active form of T3 that is not bound to proteins in the blood, allowing it to freely circulate throughout the body and be available for use by cells. Measuring Free T3 levels in the blood can be used to evaluate thyroid function and diagnose conditions such as hypothyroidism or hyperthyroidism.

**Free T4**


**14.2 pmol/L - Optimal**

Free T4 (thyroxine) is a hormone produced by the thyroid gland. It plays a role in regulating metabolism, growth, and other bodily functions. Free T4 is the active form of T4 that is not bound to proteins in the blood, allowing it to freely circulate throughout the body and be available for use by cells. Measuring Free T4 levels in the blood can be used to evaluate thyroid function and diagnose conditions such as hypothyroidism or hyperthyroidism.

**T4 Total**


**90.6 nmol/L - Optimal**

T4 Total is a blood test that measures the total amount of thyroxine (T4) hormone in the blood, including both free T4 and T4 that is bound to proteins in the blood. T4 is produced by the thyroid gland and is important for regulating metabolism, growth, and development in the body. Out of range levels of T4 Total can indicate thyroid dysfunction, such as hypothyroidism or hyperthyroidism. However, it is important to also measure free T4 and other thyroid hormones for a complete assessment of thyroid function.

**TSH**


**1.86 mU/L - Optimal**

Thyroid-stimulating hormone (TSH) is a hormone released by the pituitary gland in the brain. It regulates the production of thyroid hormones by the thyroid gland in the neck. TSH levels in the blood are used to assess the functioning of the thyroid gland, which produces hormones that are essential for regulating metabolism, growth, and development in the body. Out of range TSH levels can indicate an overactive or underactive thyroid gland, which can cause a range of symptoms and health problems.

# Vitamins

### Vitamin D (25 OH)


**24.0 nmol/L - Low**

Vitamin D (25 OH) is a blood test that measures the level of 25-hydroxyvitamin D in the bloodstream. 25-hydroxyvitamin D is a precursor of the active form of vitamin D, which is essential for maintaining healthy bones, teeth, and muscles. Vitamin D is also involved in regulating the immune system and reducing inflammation. Low levels of vitamin D can lead to bone disease, including osteoporosis, and may increase the risk of autoimmune diseases, and other health problems. Vitamin D (25 OH) testing can help to identify deficiencies and guide treatment.